



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,865	12/12/2001	Gayvin E. Stong	10011030-1	6882

7590 11/18/2003

AGILENT TECHNOLOGIES, INC.  
Legal Department, DL429  
Intellectual Property Administration  
P.O. Box 7599  
Loveland, CO 80537-0599

EXAMINER

DIMYAN, MAGID Y

ART UNIT PAPER NUMBER

2825

DATE MAILED: 11/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Applicati n N .

10/017,865

Examiner

Magid Y Dimyan

Applicant(s)

STONG, GAYVIN E.

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Acknowledgement***

Receipt is acknowledged of the Response and Amendment, filed August 25, 2003. It is also acknowledged that the Applicant has amended claims 1, 2, 10, 11, 17, 18, 19 and 20, without adding any new matter.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Dansky et al (henceforth, Dansky) – U.S. Patent No. 6,028,989.

3. Referring to claims 1, 18 and 19, Dansky discloses a computer program and method for noise calculation and modeling that determines crosstalk voltage for a planned chip design by first running routing and crosstalk routines for creating crosstalk

rules (see Abstract). Furthermore, the invention cites a direct correlation between noise voltage calculations and transition time degradation for the coupling nets (conductive metal line of the IC). See column 1, lines 55 – 62. Dansky also teaches how to set crosstalk noise limits (i.e., maximum signal transition times) as shown in Fig. 1; Column 1, lines 29 – 54; column 6, line 65 to column 7, line 60, as well as in other portions of the disclosure. Hence, as shown in Fig. 1, potential noise problems (related to transition time degradation) in an IC design can be easily flagged, as claimed herein.

4. As per claims 2, 11 and 20, see (3) above, as well as Tables B and C, and other portions of the disclosure, which cite how the noise analysis is performed based on exact topology and paths of victims and perpetrator nets (i.e., conductor lengths). See also Fig. 2; Table 1, which provide more details of the noise analysis methodology, as claimed herein.

5. As per claims 3, 4, 11 and 12, see the Abstract, which cites a program and method that can determine whether a noise problem will potentially occur for a planned IC chip design (i.e., design tool used prior to manufacturing), as claimed herein.

6. As per claims 5, 6, 7 and 14, see (4) above, as well as Fig. 1, which show a) the separate software programs; b) how the information is tabulated (i.e., stored); and c) how the noise analysis is independent of processing technology, as claimed herein.

7. Referring to claims 8, 9, 15 and 16, see Field of Invention (column 1, lines 5 - 10), which cites that this invention pertains to signal coupling between wires used on VLSI Integrated Circuit chips (i.e., MOS/CMOS FET devices).

### ***Response to Amendment***

8. The Applicant's arguments, set forth in the Response and Amendment cited above have been fully considered, but they were not persuasive.

9. The Applicant's arguments do not appear to clearly point out the patentable novelty, which he or she thinks the claims present in view of the state of the art disclosed by the references cited, or the objections made.

10. The Applicant argues that prior art fails to disclose the method to determine noise problems on signal lines of an integrated circuit that use transition time checks that depend on measuring the transition time degradation on the victim line. The Examiner respectfully disagrees. The main reference cited by the Examiner in the First Office Action (Dansky) clearly states "inductive contributions to noise voltage calculations and full modeling of both nets to include transition time degradation". See column 1, lines 57 – 59. Dansky also recites "outputting a nodal voltage vs. time data at each receiver location on a victim net as well as key nodes on any perpetrator nets of

said planned design" (see column 2, lines 14 – 17). These disclosures confirm the rejections set forth by the Examiner in the First Office Action. The Amendments made to the claims cited in the Acknowledgement referred to above do not alter the original rejections.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Magid Y Dimyan whose telephone number is (703) 308-1354. The examiner can normally be reached on Monday - Friday 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S Smith can be reached on (703) 308-1323. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

Magid Y Dimyan  
Examiner  
Art Unit 2825

myd  
November 11, 2003



**LEIGH M. GARBOWSKI**  
**PRIMARY EXAMINER**